Ankr 2.0: A Decentralized Node Marketplace

July 8, 2022

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Introduction

This whitepaper is addressed to our tight-knit community of blockchain developers, partners, and token holders to explain Ankr's global strategy in 2022 and beyond. Ankr 2.0 consists of a full suite of decentralized products and services that serve as the critical infrastructure behind Web3 growth. This document covers all aspects of Ankr 2.0, including a new decentralized Ankr Network, an updated pay-as-you-go service model, ANKR token staking, Ankr DAO, Ankr Grants, Ankr App Chains, Ankr Gaming, and more. We've also included a bit of historical context about where Ankr started, how we got where we are today, and how we are constantly evolving with the industry.

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About Ankr

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The Ankr Story

Ankr was founded in 2017 with the idea of harnessing the cloud computing power left idle in data centers all over the world and reallocating it to power bitcoin mining, node hosting, the Internet of Things (IoT), and more. The team grew quickly and accumulated a global supply of bare metal servers, which enabled Ankr to provide services like node hosting and API access. During the past two years, Ankr shifted focus to providing the underlying node infrastructure for a movement that would become known as Web3.

As Proof-of-Stake (PoS) blockchains began to offer exciting new possibilities for smart contracts built on blockchain rails in the form of decentralized applications (dApps), Ankr stepped in to serve the vast needs for increased node infrastructure necessary to develop and operate dApps. Ankr combined developer infrastructure (full nodes) with staking infrastructure (validator nodes) as the development on these various blockchains went hand in hand with PoS security and incentives.

As Ankr began to focus on PoS infrastructure, our services increased 25-fold over the last year as we powered a growing portion of Web3, and we saw incredible expansion in a number of areas with:

7B

Daily API Requests

345

Nodes in Service

39K

Distinct Developers

27

Public RPCs

30+

Global Regions

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In response to this growth, ANKR became one of the top 20 most-traded tokens on Coinbase and Ankr became known as a critical infrastructure provider for the Web3 stack and Proof-of-Stake networks. However, as Ankr evolved alongside the Web3 industry, the importance of decentralization — especially in the infrastructure layer— has become increasingly clear. A dependence on centralized infrastructure creates single points of failure, unexpected downtimes, and an increased threat of censorship, which are antithetical to the core principles behind decentralization.

As the fastest-growing infrastructure provider in Web3, Ankr is now laser-focused on decentralization. This means doing our part to transition more blockchains, and the dApps built on them, to more distributed and resilient node networks supported by independent node providers. Additionally, this means formalizing the system of community governance over Ankr Network and upgrading the protocol to ensure the ANKR token is the heart of the entire ecosystem with brand new utility.

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Our Focus

The importance of node infrastructure cannot be overstated. Everything that's a part of Web3 relies on nodes — including layer-1 blockchains, DeFi protocols, virtual worlds, decentralized games, and NFT projects. Therefore the growth of demand for reliable, secure, and efficient node infrastructure should continue to increase alongside Web3 development as a whole.

With this in mind, Ankr has a clear calling: provide the node infrastructure necessary to make Web3 development easy and prolific. Ankr provides the multi-chain tools and node infrastructure that developers need to build new projects on Web3. And we're accomplishing this in a way that is true to the Web3 movement, with the end goal of completely decentralizing infrastructure and governance.

Providing services for these movements places Ankr as a central utility player providing the critical infrastructure for the growth of Web3 as a whole. If we think of DeFi, the metaverse, decentralized gaming, and other Web3 industries as burgeoning new cities, then Ankr is like an underlying power grid that makes all the operations possible — and when these movements expand, Ankr will too.

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Ankr Network:
Connecting Devs to Nodes

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Overview

Ankr Network is the gateway through which Web3 developers, projects, and protocols connect to the node infrastructure and development tools they need to build Web3 applications. In the months ahead, we plan to improve the decentralization of the Ankr Network node marketplace, expand the scope and variety of services offered through the protocol, remove central points of failure and promote consensus-based decision-making with the launch of Ankr DAO. We believe these changes will radically transform the Ankr ecosystem, significantly improve the utility of ANKR token, and provide tremendous value to the Ankr community.



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Ankr Network Version 1: Fast and Reliable Web3 Infrastructure

The first version of Ankr Network was launched in a centralized fashion. It was created to address a crucial need for node infrastructure in the Web3 community. With initially centralized roots, Ankr Network was able to grow quickly, scale its solutions, and develop an eminently useful suite of features.

Now, Ankr Network handles over 7.2 billion RPC calls to blockchains daily via endpoints that are geo-distributed all around the world and benefit from efficient load balancing. A majority of these nodes are operated by Ankr, but many of them are independently operated by participating node providers — a force for decentralization.

By becoming a node provider with Ankr Network, participants are essentially providing their own infrastructure to receive requests from Ankr's RPC network and earning rewards for doing so.

Aside from Ankr-operated nodes, other leading members of the Web3 community also participate in Ankr Network, such as IoTeX, Pocket, Fantom, Debooks, Polygon, Quicknode, and many more.

The first iteration of Ankr Network is highly capable and performant, and compares to the likes of other well-established infrastructure providers like Alchemy and Infura. In the last 30 days, Ankr has facilitated 250 billion requests to the blockchain. Now, we're disrupting ourselves by taking our own highly successful protocol and decentralizing it even further.

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Ankr Network Version 2: A Decentralized Infrastructure Marketplace

The evolution of Ankr Network includes our free, public RPC endpoints that developers have come to know and love, alongside new Premium and Enterprise plans packed with advanced developer tools — all powered by a globally distributed and decentralized network of nodes. In the new Ankr Network, developers pay-as-they-go for access to on-chain data, independent node providers serve blockchain requests to earn ANKR tokens, and stakers contribute ANKR tokens to full nodes to secure the network and share in the rewards.

Public RPCs are available to all and free to use on the Ankr Network platform. Today, blockchain developers and projects can use these RPC endpoints to access Polygon, Avalanche, Arbitrum, Solana, Celo, Near, Fantom, Ethereum, and many other blockchain networks with no need to input user info or login credentials. Simply visit https://www.ankr.com/protocol/ to get started using these endpoints.

To access all the advanced features of Ankr Network, developers can use premium services with a flexible and affordable pay-as-you-go model denominated in ANKR tokens. Premium features include exclusive multi-chain RPC endpoints, prioritized requests, WebSockets, and Advanced Developer APIs that are designed to make Web3 development easier than ever.

To serve the large volume of requests made to Ankr's RPCs, independent node providers are incentivized to serve network traffic that's filtered through our intelligent load balancer. Ankr Network node providers earn ANKR tokens for serving request calls and furthering our mission of providing fast, reliable, decentralized Web3 infrastructure. The new version of Ankr Network will invite more independent node providers than ever before to achieve this goal.

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Initially, only projects that pass KYC and meet the designated hardware and ANKR token collateral requirements can become node providers on Ankr Network. However, our node provider program will eventually incorporate individual node operators that can run nodes from anywhere for maximum decentralization as long as they can meet the high performance standards of the protocol.

Ankr is committed to returning to its roots as a community-first provider of public tools and products that will help people contribute to self-sustaining crypto communities. With the new release of Ankr Network, we share with you our vision for a crypto-native platform where node operators provide computing power for developers and stakers and, in turn, are rewarded for their services. This new business model allows Ankr to scale our services exponentially across the board as we increase decentralization and share more rewards and decision-making power with our community.

Additionally, we believe Ankr will become an extremely popular point of entry for new Web3 developers and projects to access the blockchain as we remove more and more barriers to entry. After all, with instant access to blockchain data, there is no need to contact a sales team, provide traditional payments, or even set up an account.





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How It Works: Under the Hood of Ankr Network

The architecture behind Ankr Network and the start-to-finish process of serving remote procedure call (RPC) requests.

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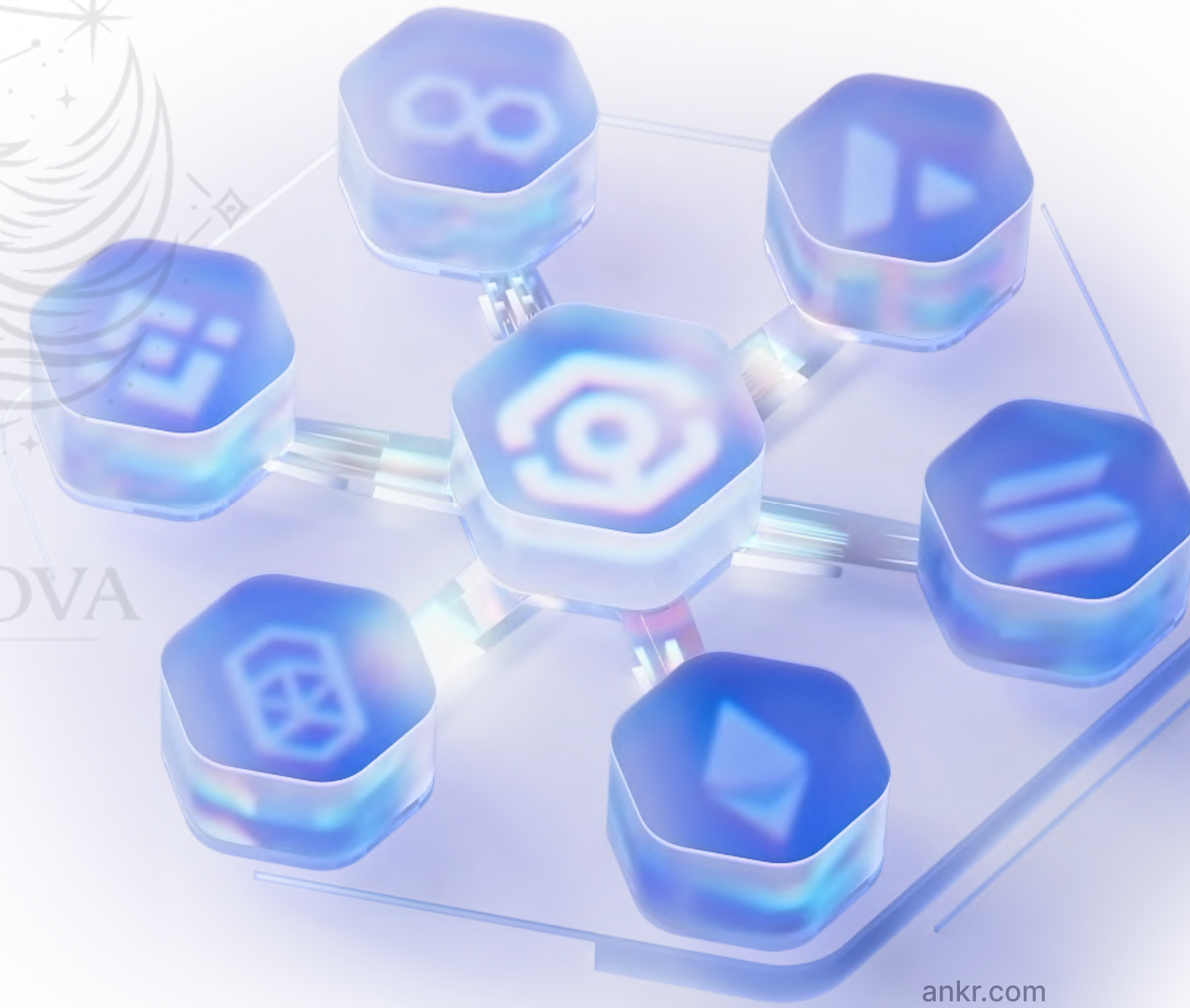
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Users Interact with Ankr Network to create RPC requests

There are three RPC consumer tiers on Ankr Network – Community, Premium, and Enterprise. Those using the Community RPCs don't need to go through any account setup or process. They will simply copy and paste public RPC endpoints into their project code for free access.

However, those who wish to access premium features will need to go through the process below:

- Connect a wallet such as MetaMask
- Follow prompts to provide public key access to Ankr and sign the login message
- Signing this message will automatically trigger an account creation with a new premium ID
- The user will be taken to their new account page, where they must deposit a minimum of 1,000 ANKR
- The user will then be able to pay as they go for every RPC request method out of their API credits



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Smart Contracts

Smart contracts allow the user's wallet to interact with the protocol at necessary moments. Whenever the user deposits or withdraws funds from their account, the smart contracts will be utilized to complete these transactions. Smart contracts are first activated when users deposit funds into their new accounts, then they are used to complete every deposit to top up their account after that. Smart contracts also enable the users to request withdrawals to their wallets. For example, if a person deposits an amount of ANKR tokens and then decides to use them for something else, they can initiate a withdrawal from Ankr Network at any time.

Consensus Mechanism

Ankr's consensus mechanism is the means by which the protocol can confirm that a user has fulfilled particular conditions and qualifies for particular services. As a part of this, the consensus mechanism ensures that a particular person has actually deposited a specific amount of ANKR in a specific smart contract. Upon confirming this, the consensus mechanism issues a JWT token (JSON Web Token) that enables the person to use RPC services with premium features.

JWT tokens are used to securely transmit information between parties as a JSON object in a self-contained manner. For instance, when someone makes a deposit, the consensus mechanism's endpoint provides data for the transaction being made, such as their credentials (an address, public key, and transaction hash). When doing so, it needs to verify that a deposit has been made and, therefore, requires a JWT token. The consensus mechanism will use the hash and other data provided to check the transaction and its status, ensure it hasn't been reverted, and determine whether the transaction's block has at least 12 more blocks on top of it (while also checking against a full set of other conditions). If the transaction meets all the conditions, then the consensus mechanism issues a JWT token.

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Cryptography

Cryptography plays a major role in Ankr Network operations to ensure that both the users and the protocol maintain the highest level of privacy and security. The cryptography measures of the protocol are first activated when users connect their wallets to create a premium account.

During signup, new premium users are prompted by their wallet to sign a message to enable and authenticate a connection between the wallet and the protocol. User authentication is built upon the wallet's public and private key pair (In Ethereum's case, there is also an Ethereum address derived from a public key). User authentication occurs as a result of implicit verifications of the fact that the user actually possesses a private key from a particular address. Therefore, the following actions take place:

- When the consensus mechanism issues a JWT token, the user receives that token encrypted. So, even if a potential bad actor oversaw the transaction, knew the address, public key, and so on, it wouldn't benefit them. To decrypt a JWT token and use it (send it to the load balancer), a person would need to calculate a super-complex cryptographic task similar to hacking the Ethereum blockchain. In other words, somehow pick a private key that correlates with a public key and address. Currently, it is assumed that such a task can't be solved.
- Only authenticated users are allowed to view their sensitive data stored on the backend, such as current account balance, transaction history, and so on. Therefore, the protocol will need to confirm that the user has the right to receive information with their address. So, if they want to be able to view their information, they will need to sign a line with their private key from the corresponding address. Once the protocol receives the signature, it is able to find the address on file and ensure it matches the one that is provided. In any instance where the addresses do not match, it will not permit access.

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MetaMask has three interactions with the protocol during the cryptographic process:

- When a user signs up, the protocol needs access to the user's public key (via MetaMask). The protocol then gives the public key to the consensus mechanism so it can know the address where encrypted JWT tokens will be assigned.
- The protocol will interact with MetaMask to decrypt a JWT token issued to the address by the consensus mechanism.
- To prove to the protocol's backend that the user indeed owns a private key from a particular address.

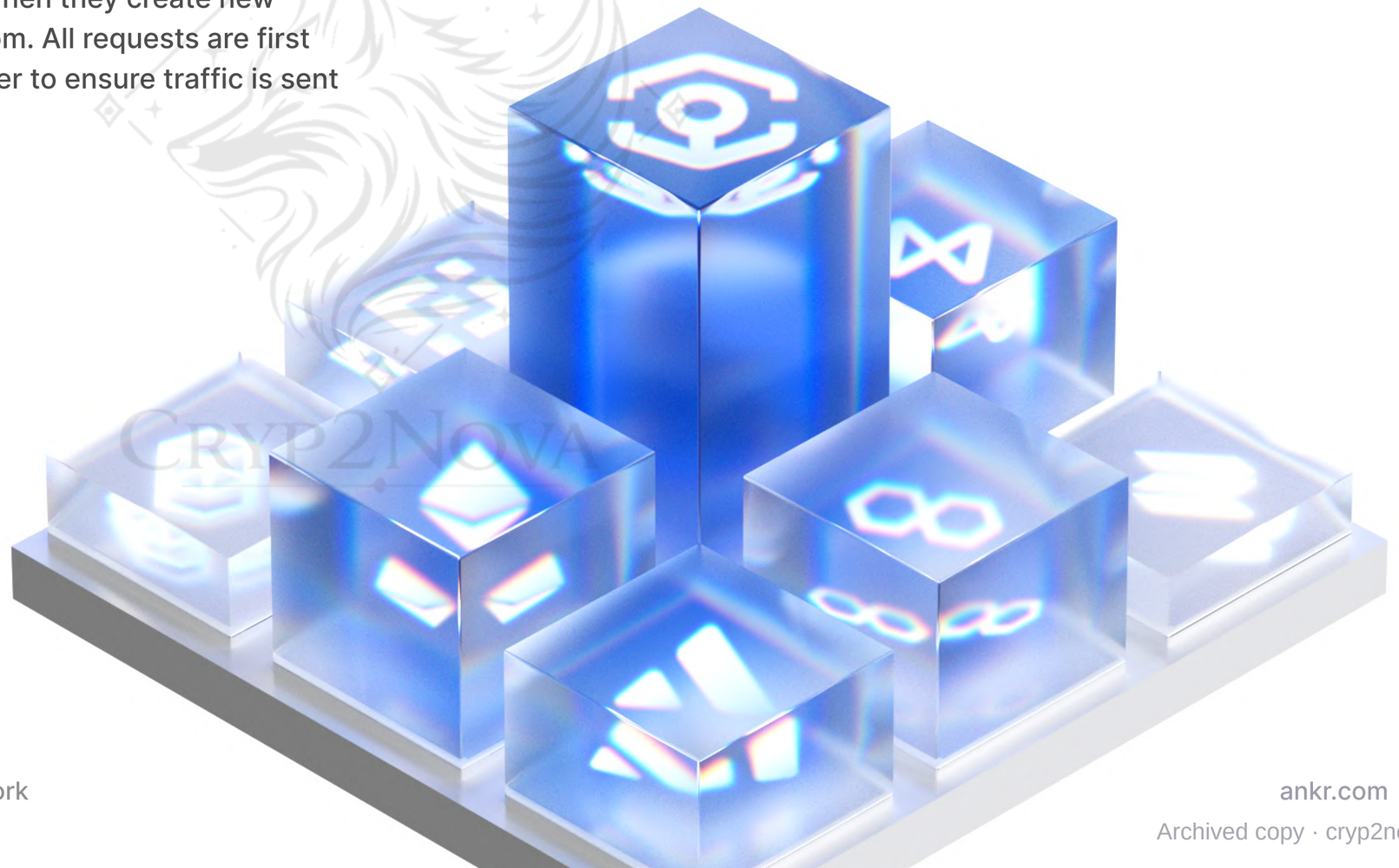
If a user loses access to their private keys associated with the wallet they used to sign up, they will no longer be able to use the associated account.

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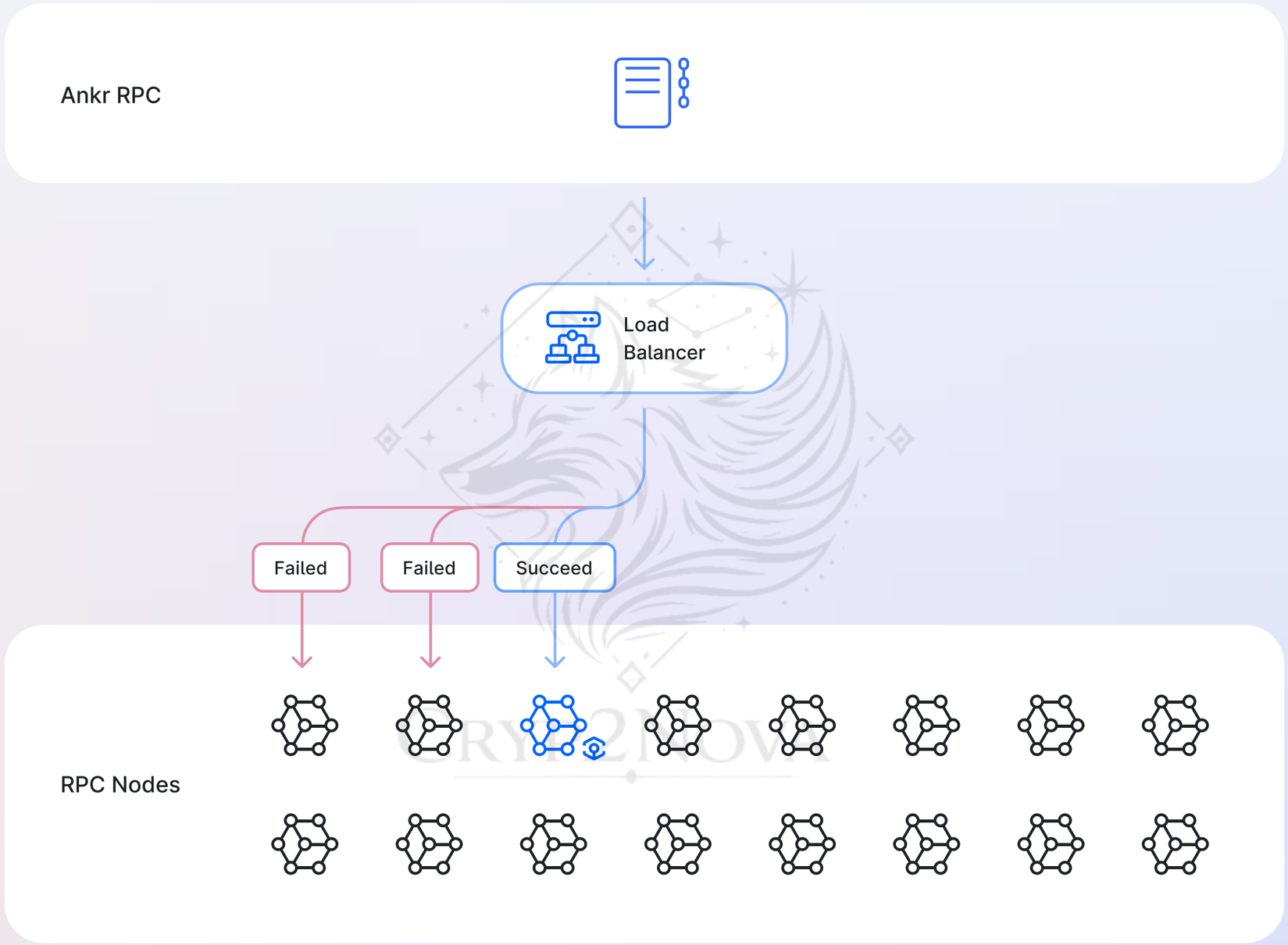
RPC request traffic is assigned through the load balancer

After all security and cryptography measures are satisfied, users are free to make RPC requests to the protocol. When they create new requests, they are not sent to nodes at random. All requests are first sent to the load balancer that acts like a router to ensure traffic is sent to the best-suited nodes for the job.



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A Scoring Algorithm Determines the Best Possible Node Connection

The load balancing algorithm uses a scoring system to determine the best possible node to serve a user's RPC request at any given time.

Node Health

The load balancer scores nodes on a scale of 1-10 based on if they are synced with the blockchain or behind in blocks. If the node is behind, the delay is critical, or the node does not respond to the block height queries, the load balancer will not assign RPC traffic for that node to serve.

Geographic Location

The load balancer will select the quickest node to answer to a request. To do so, the load balancer instance nearest to the user regularly sends a standard request to each node and measures their response times to find the fastest one. Usually, this node will be the closest in geographic proximity to a load balancer instance. Because of this, the user will always receive the fastest response without the protocol ever needing to know their geographic location – this ensures users always remain private and safe.

Workload

As its name suggests, the load balancer effectively manages traffic to ensure that the traffic is spread (balanced) evenly across all active nodes and that none are overwhelmed with requests. To help share the load, independent providers serve traffic alongside Ankr-run nodes in order to earn token rewards for every successful request served.

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Failover Ensures Requests Are Served Rapidly

If a request reaches a node that experiences an outage or an error, the load balancer will automatically re-route the request to another node.

Every failover response will depend on the error. Depending on what class the error falls under, a request will either be sent to another node, or it could be nullified if there is incomplete information (transaction hash unknown, block doesn't exist). In the first case, if a node isn't performing well, then the request is automatically sent to another node. Likewise, If a node answers incorrectly, the protocol moves to a second node, and if the second answers incorrectly, it will move to a third.

Ankr Network's monitoring system observes the performance of all nodes with very high regularity. If something goes wrong with a node, it will be disconnected from the load balancer, and it will no longer be regarded as a candidate to serve users' requests.

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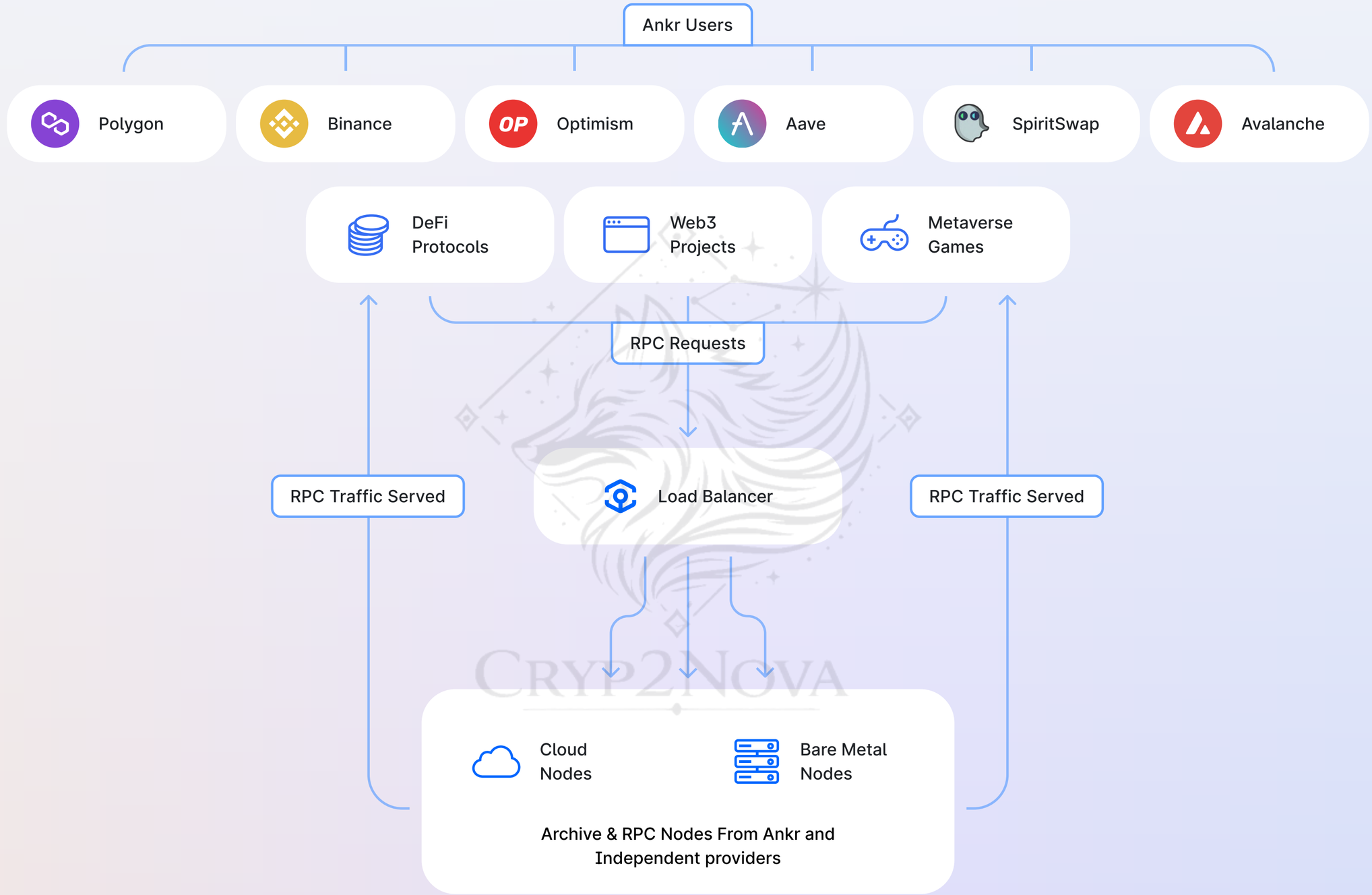
Traffic Served With Maximum Performance

The load balancer routes requests to a hybrid infrastructure of cloud and bare-metal servers with nodes running on more chains than any other web3 infrastructure provider. This combination provides a unique combination of benefits that give the very best of speed, reliability, redundancy, and decentralization.

Ankr's nodes are spread across independent data centers worldwide. Ankr has been installing bare metal servers for years in 30 of the various cloud regions in North America, South America, Europe, the Middle East, Asia, Oceania, and Africa. Bare metal servers provide impressive performance and avoid many drawbacks of AWS and cloud providers, such as geofencing and concentrated outages. In addition to Ankr-run nodes, our independent node providers serve traffic from data centers around the world and make Ankr Network more decentralized – a service much more in line with the original principles and purpose of blockchain tech.

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Distributed RPC Endpoints Provide High Performance

Since Ankr has nodes running globally, our endpoints are distributed across the world with node pools that comprise the 15 total RPC clients available on the protocol.

There are three types of nodes that serve traffic:

- **Archive Nodes** - Store an entire copy of the blockchain from the genesis block
- **Full Nodes** - Hold the complete current state of the blockchain
- **Light Nodes** - Only store block headers and reference full nodes to seek complete data

These nodes each have very different requirements for NVMe storage, RAM, and SSD sizes – but they all come together to provide an extremely fast and efficient RPC service.

We are seeking to add as many archive nodes as possible to Ankr Network as they have the most capabilities. However, this comes with additional requirements for hardware as the archive nodes are expected to meet higher specifications.Archive nodes are crucial for receiving historical data, but not all the requests coming to blockchains necessitate archive data retrieval.

Most users are interested in the state of a current block, sending transactions, or finding out if a transaction has been validated. In some cases, full nodes and light nodes are more than adequate enough to serve certain types of requests, so we also deploy those in appropriate amounts. We know the request percentages for all node types, and use this information to estimate how many nodes we will need at any given time and what type.

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Caching Provides Efficient Access To Data

Having caches lets Ankr Network serve requests faster by having the data ready on-hand and saves protocol resources. Since the protocol possesses information on many different node responses, it can store that information according to the response type and have it ready to serve faster the next time the same request arrives. Caching duration depends on the request type. For example, if historical data is requested and we need all transactions of the block mined half a year ago, then we cache such data for an extensive period. If the requested info is prone to frequent changes, then such data is either not cached at all or cached for a short period.

Distributed Infrastructure Improves Blockchain APIs and RPCs

Blockchain is already distributed and decentralized, so why are distributed RPC Pools needed? Distributed and decentralized infrastructure provides benefits to users in several areas:

Lower Latency

Having globally distributed nodes operated by node providers around the world means users can get a reliable, low latency, efficient experience no matter their location. A geographically-distributed system of load balancers provides the same service quality wherever a user is located. This is a core idea behind Ankr Network — to be able to use a service with predictable quality every time.

Better Redundancy

The more geographically distributed and decentralized infrastructure is, the better. If our nodes or endpoints experience an outage, the intelligent load balancer redirects traffic automatically — ensuring all connected projects stay up and ready to accommodate their users.

Superior Efficiency

The protocol helps users anywhere in the world reduce time expenditures by providing high-quality node connections as close as possible to them. Centralized solutions are associated with low quality because the services they provide differ greatly in quality depending on the user's location; Ankr Network solves this issue.

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Ankr Network's Developer Features

This section describes exactly what types of infrastructure and tools developers can expect to find on Ankr Network. From free, Community RPCs to advanced developer APIs, there's something for every Web3 developer

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Free, Community RPC Endpoints for All

Community RPCs

Having public Community RPCs serves a critical purpose: it powers Web3 applications like MetaMask and other free, open-source software to connect with information on different blockchains. With easy access to free RPC endpoints, developers and projects can interact with blockchain data and execute tasks like crypto wallet transactions. It also allows developers to build dApps freely on their own terms.

Ankr currently operates 17 free, public RPCs to the most popular blockchain networks for Web3 development. Combined with other endpoints, these RPCs are serving over 7.2 billion requests to blockchains daily, a number that is only expected to grow every week. We've been working around the clock to expand our public RPC services to meet this ever-increasing demand.

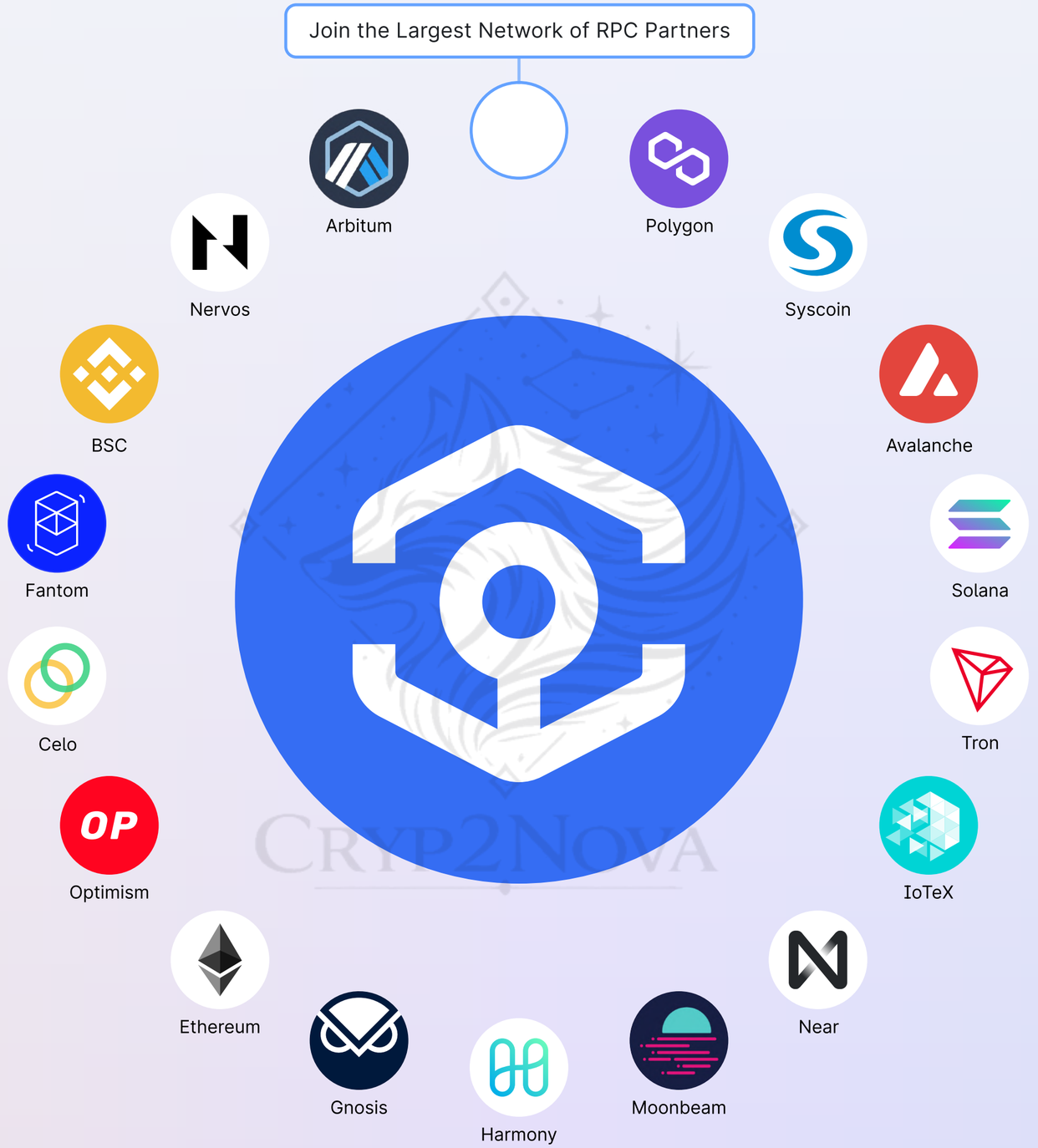
As the Ankr Network welcomes a nearly infinite supply of community node providers, our public RPC service will provide a free gateway for developers to interface with the blockchain and build the future of Web3.

Premium and Enterprise Features

Those seeking to scale operations may want access to advanced features to supplement RPC services for Premium and Enterprise tiers with:

- Unlimited requests
- Global node distribution
- Exclusive endpoints
- Prioritized requests
- Access to blockchain analytics
- Advanced Developer APIs
- WebSockets (WS) capabilities

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Advanced Developer APIs

Ankr's Developer API service is a collection of RPC methods that were created to simplify querying blockchain data of all types. As developers know, searching for data across blockchains can be very resource and time-intensive. That's why we did the heavy lifting to make it easier to query on-chain data as quickly and efficiently as possible. With Ankr's Developer APIs, you can:

- Reduce the number of requests you need to make
- Reduce the amount of time you spend making requests
- Save time and money by querying multiple chains at once

To start, Ankr Protocol is debuting three powerful APIs.



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Query API

Ankr's Query API makes it simple to search a range of blocks for an address or an event, eliminating the very lengthy process of a manual search using RPCs. Leveraging our network of powerful Ankr-owned nodes, we've scrubbed and indexed blockchain data from all of the six chains supported by our Developer APIs. When a new block is minted, it too is processed and indexed into our database.

With our efficient indexing, you get results quickly. For example, if you wanted to search for an event like "an NFT from 'X' collection was minted," you could do so across a range of blocks with extreme efficiency. What might normally take hours of searching can be done nearly instantaneously thanks to the key-value pairing schema.

Token API

Ankr's Token API is designed to help developers query information about tokens on any of the EVM-compatible blockchains currently supported. The Token API allows developers to query things like account balances, how many currencies exist on a given blockchain, how many token holders a given currency has, and a token's current fair market value.

Notably, our Token API only uses on-chain data, leaving third parties behind. Ankr constantly scans relevant blockchains for transaction data coming from several popular DEXs. When a transaction is made with a particular token, it flags the transaction and reads the relevant information (i.e., how much a token was traded for) and then aggregates and averages that data to provide a token price in real time. These tools are crucial for Web3 projects like marketplaces and exchanges looking for efficient ways to query accurate, on-chain data for tokenized assets.

NFT API

As NFTs become more fundamentally integrated with Web3 than ever before, developers need new tools to work with them. Ankr's NFT API enables developers to easily query the ownership history and metadata of an NFT across the six different blockchains supported by our API.

That makes it easier than ever to find the details about which collection an NFT belongs to, when it was minted, its past transaction history, who currently owns the token, and so much more — across multiple blockchains at once. Web3 projects that integrate NFTs (including virtual worlds, decentralized games, galleries, marketplaces, and more) need to be able to pull this information across a breadth of collections across chains, which is complex. Ankr's NFT API makes it simple.

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The ANKR Token

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ANKR Token Utility on Ankr Network

Under the new Ankr Network, the utility of the ANKR token has increased to become the essential core of our ecosystem. In this way, Ankr Network creates a decentralized marketplace for Web3 infrastructure that all revolves around the ANKR token.

Ankr Network Premium Plan users are incentivized to pay for services with ANKR tokens in order to take advantage of discounted rates. Independent node providers earn ANKR rewards for serving network traffic. Individual token holders are able to stake ANKR with node providers to help secure the protocol and share in the rewards for serving requests.

In summary, ANKR is used to:

- Pay for Ankr Network Premium Plans under a pay-as-you-go model
- Pay collateral deposits (self stake) required to become a node provider on Ankr Network
- Reward node providers for serving network traffic
- Reward ANKR token stakers for helping to secure Ankr Network
- Provide a means of payment for independent node auditors
- Vote on proposals in the Ankr DAO

Notably, by introducing a staking system on Ankr Network that provides incentive for independent operators to run full nodes, Ankr provides a solution for bootstrapping a distributed network of independent node providers serving the development layer (rather than validator nodes serving the consensus layer), which solves a fundamental problem that Web3 developers face.

We'll explore each of these use cases one by one in the sections that follow.

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Ankr Network User Fees

Ankr Network users with Premium Plans will pay for every request they make to blockchains in our new pay-as-you-go model that ensures developers won't overpay for annual subscriptions. The cost of an individual request averages to about $0.00004 USD, with certain types of requests costing more or less based on their respective resource requirements. In turn, these fees are used to incentivize independent node operators and are redistributed amongst node providers and stakers. Anyone can see the current cost of RPC requests by viewing the pricing data in our docs.

This pricing is drastically cheaper than popular centralized node infrastructure providers like Infura and Alchemy. And when paying Ankr Network fees with ANKR tokens, users will receive an additional discounted rate. Certain Advanced API features may only be accessible to those who use the ANKR token for access. Ultimately, the Ankr DAO will decide the future price of Ankr Network Premium services based on the price of the ANKR token at the time

Node Provider Collateral Deposits

In order to be eligible to serve traffic and earn rewards from Ankr Network, independent node providers will need to provide a self-stake of 100,000 ANKR per node. This self-stake acts as an insurance policy to ensure that node providers act in the best interest of protocol users and meet the protocol's high performance and uptime requirements.

If a node provider fails to meet these requirements, their node will be slashed, with funds removed from the provider's self-stake, and, in some cases, from the delegators who have staked ANKR with that particular provider.

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Node Provider Rewards

ANKR token rewards incentivize independent node operators from all over the world to join Ankr Network and serve network traffic. Node operators will earn ANKR for the traffic they serve, meaning that the best-performing operators will stand to gain the most.

And because nodes will serve local traffic in their respective parts of the world, Ankr Network can achieve extremely low latency thanks to vast geo-distribution. It also enables the free market to influence where nodes are located (i.e., if there is an underserved market making lots of RPC calls, there is more financial incentive to establish a node in that region rather than another already saturated region).

The following is a revenue breakdown of how we anticipate Ankr Network user fees will initially be redistributed to node providers and stakers, subject to approval via governance vote:

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goes to the Ankr Treasury (controlled by Ankr DAO)

30%

21%
goes to the self-stake pool (node provider)

49%
goes to the staking insurance pool (individual stakers)

goes to the node

70%

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Staking ANKR to Independent Node Providers

The Ankr Network depends on reliable, high-quality node providers to serve RPC requests on supported networks. As such, the system requires a significant deposit of ANKR backing each node provider. This includes ANKR deposits each node provider contributes (the self-stake) that is subject to slashing in the event of malicious acts or poor performance by the node provider.

In addition, token holders will have the ability to signal support for individual node providers on the Ankr Network by staking ANKR to back their nodes. By delegating ANKR to node providers, community members play an active role in discerning which service providers are reputable, performant, and worthy of a reputational boost. In return, ANKR token stakers share in the rewards earned by the node providers they support, while assuming a portion of slashing risks. ANKR staking will also enable delegators to allocate voting power to node providers to decide, among other things, which independent node providers will be admitted in the near term to service traffic on Ankr Network.

The initial ANKR staking pool will be capped in size, offering allotments to existing node providers, community members, and other active Ankr ecosystem members. To fill a portion of the initial allotment, a fair entry mechanism will be used to facilitate participation from a range of stakeholders, including long-term token holders who are most likely to contribute to Ankr Network actively. In future releases, we anticipate that the pool size will be expanded.

Node Auditing Mechanisms

Since independent nodes can apply to join Ankr Network, security and performance standards need to be prioritized. For this reason, all applicants will be vetted to ensure they satisfy KYC, equipment, and performance requirements to keep up with intensive network traffic. Ankr will partner with other blockchains, projects, and foundations to conduct audits to ensure that participating node providers are scrutinized in accordance with the highest performance and behavior standards. Partners who assist Ankr in this auditing process will receive payments in the form of ANKR tokens.

Ankr DAO Voting

The ANKR token is central to all operations in Ankr DAO. To vote in the Ankr DAO, eligible holders must contribute ANKR tokens to the specified voting contract. The voting process will consist of a discussion of the idea, a temperature check poll, proposal formalization, and finally a Snapshot vote. While off-chain voting will initially be used, the team intends to explore further automation via on-chain voting as the governance system evolves.

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Ankr DAO

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Governing Web3 Infrastructure

Ankr Network will be steered by a community governance system, which will empower more Ankr stakeholders to contribute to decision-making with respect to parameter changes and fundamental decisions concerning Ankr Network.

The purpose of community governance of Ankr Network is to make the foundational layer of the Ankr tech stack an open and perpetual protocol. An open and perpetual protocol exists apart from the participation of specific individuals and is constructed so that its stakeholders have clear governance parameters as they engage with the protocol at any given point in time. To maximize the durability of the Ankr network, we will be progressively decentralizing governance of the protocol, meaning we are removing central points of failure and promoting consensus-based decision-making. By moving away from individuals, we are increasing the autonomy of the protocol by creating and implementing a smart contract infrastructure that will execute actions based on predefined rules, thereby alleviating the need for ANKR token holders to trust that individuals will always operate according to expectations.

The system of community governance over Ankr Network will aim to minimize the complexity of decision-making. The governance rules that apply to the initial state will be written with a view to capture the simplest viable rule system to accomplish the mission of Ankr Network to be a globally distributed and decentralized network of nodes that power Web3 development. Where actions can be performed purely by algorithm, we will favor algorithmic processes over bureaucratic processes. Over time, the Ankr community will provide the protocol with the tools necessary to modify the protocol's governance structure according to actual needs rather than speculative needs.

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Ankr Grants

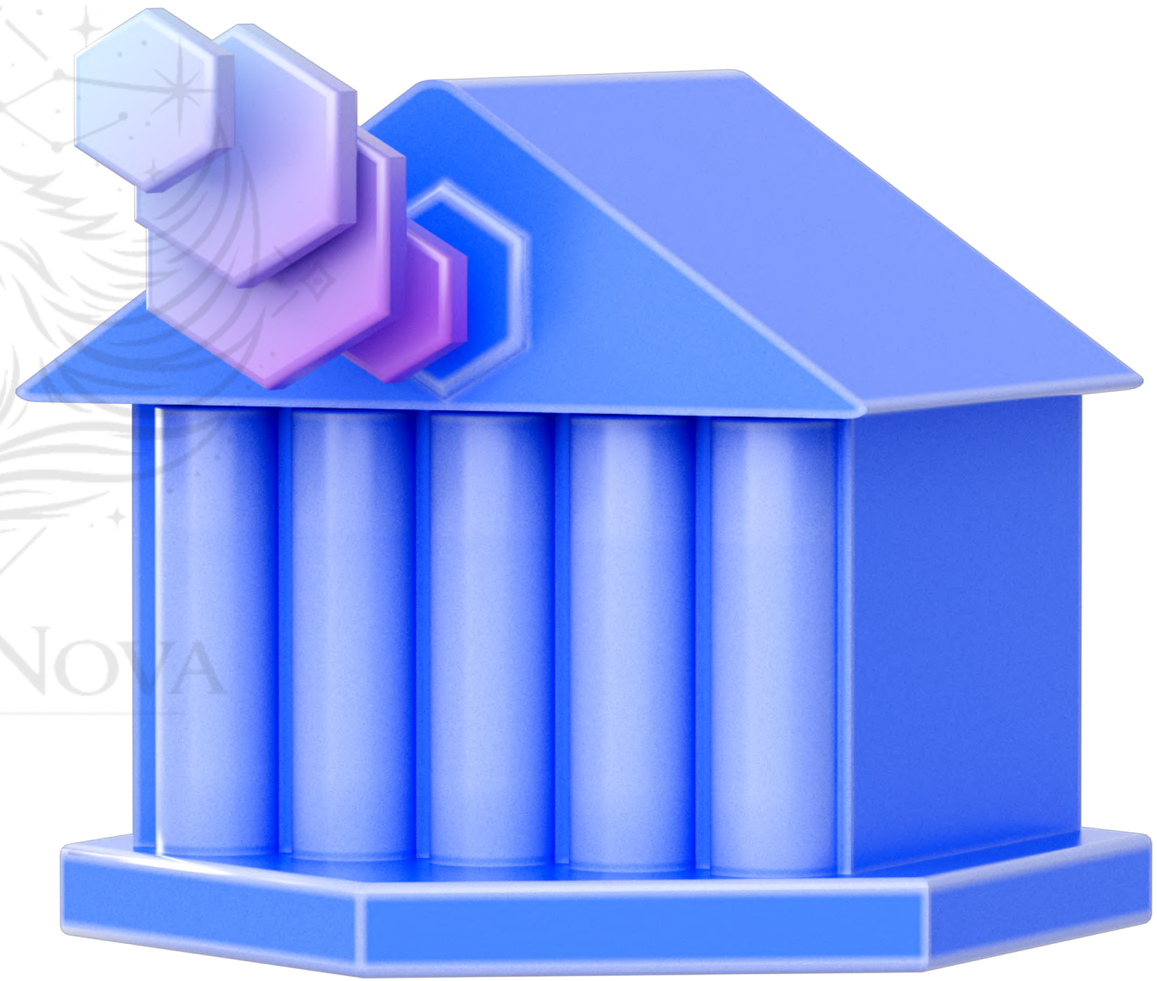
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Funding for Web3's Future

Ankr has launched a grant program valued at $10 million USD in ANKR tokens to more heavily reward builders who create value for Ankr DAO and further bolster the growth of Ankr becoming the de facto infrastructure for Web3. Distributed over two years, the grant will be used to fund multiple tiers of development that appeal to a wide range of Web3 users, including:

- Smart contracts developers
- Authors of in-depth developer tutorials and educational materials
- Independent node operators wanting to join Ankr Network
- Small projects that need access to Ankr's advanced protocol features



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Other Offerings

Aside from our core product — Ankr Network, which provides developers easy access to blockchain infrastructure — participants in the Ankr ecosystem also offer other products, services, and tools for Web3.

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Technical Solutions for Partners and Open Source Public Goods

Ankr has attracted some of the most talented engineers in the industry that have become integral in helping our ecosystem of contributors and partners solve extremely complex technical problems. Not only does Ankr provide the foundational infrastructure for partners like the BNB Chain, Polygon, Optimism, Avalanche, and Syscoin, we also offer technical assistance that has upgraded the very framework of Proof-of-Stake systems with open-source solutions such as the Erigon performance upgrade for the BSC.

Ankr is uniquely positioned to offer technical expertise as our team is already deeply involved in the environments of our supported blockchains. As a core contributor to PoS chains, Ankr has overhauled the underlying node architecture of projects while detecting weaknesses and implementing performance upgrades whenever possible. Together with our partners, Ankr has explored new tech that is leading to the future of Web3. Ankr goes above and beyond for key partners in:

- Architecting frameworks for bridges, sidechains, testnets, and more
- Support in engineering, DevRel, DevOps, benchmarking, and development
- Consulting for Web2 companies entering the space, such as Mastercard
- Helping projects bootstrap their infrastructure with additional tools like block explorers
- DeFi project consulting, staking, tokenomics, and more

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Ankr App Chains

Ankr ecosystem contributors and partners have created plug-and-play tools that allow developers to build their own custom application-specific blockchains on new subnet frameworks like BNB Application Sidechains, Polygon Edge, and Avalanche (collectively, “Ankr App Chains”). With only one dApp per chain, projects can eliminate the need to compete for network resources and are able to provide an extremely positive UX with low or zero gas fees and blazing-fast transactions.

Ankr’s App Chains provide Web3 startups, existing Web3 dApps, and Web2 organizations and games coming to Web3 everything they need to build an app chain. Ankr ecosystem contributors and partners are uniquely equipped to provide end-to-end engineering solutions and support for the following app chain building blocks:

- Validator binary + config file (.toml)
- Load-balanced RPC endpoint
- White-labeled block explorer
- Faucet for testnet tokens
- Direct staking support through a UI
- Ankr’s “Exchange Readiness” program

Ankr App Chains won’t just make it easier to create custom blockchains, it will open the gates for Web3 adoption with an improved user experience. With scalability issues out of the way, devs can focus on providing dApps so streamlined that they will take next to no knowledge to get involved – leading the way for Web3 to finally onboard billions of new users, not millions.



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Web3 Game Development Tools

The Web3 gaming SDKs built and deployed by Ankr contributors and ecosystem partners help game studios and developers integrate their games and in-game functionalities with Web3. With Web3 gaming SDKs for both Unity and Unreal, Ankr makes it easy for game developers and game studios to give their games full Web3 capabilities — including integrating cryptocurrencies and non-fungible tokens (NFTs). With these tools, users can save an incredible amount of time with readymade solutions so they can get to market faster.

With Ankr's gaming SDK, developers can easily:

- Support Web3 wallets for in-game transactions
- Integrate NFT capabilities like minting, renting, and trading
- Detect and connect to multiple blockchains
- Launch and distribute in-game currency as tokens
- Optimize games for Web3 on mobile



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Innovative Staking Products

Staking secures blockchains by making it prohibitively expensive to attack networks. However, the need to lock up tokens to stake makes staking inefficient. For this reason, Ankr pioneered liquid staking, which is designed to solve capital inefficiency by allowing users to still utilize their assets while they're being staked.

To do so, users who stake their assets with Ankr can mint liquid staking tokens in their place, which represent the originally staked assets plus staking rewards. Liquid staking tokens are immediately liquid and can be traded, sold, or deployed on other DeFi protocols to compound earnings.

This greatly reduces the opportunity cost of staking and gives stakers more options, flexibility, and liquidity for their assets. By reducing this opportunity cost, liquid staking has caused an explosion of the Total Value Locked (TVL) in assets staked to Proof-of-Stake blockchains.

Ankr aims to be the leading multichain staking-as-a-service provider by delivering a consistent staking experience to users, integrators, applications, and institutions across every major blockchain. While doing so, Ankr will continue to pursue long-term partnerships with key DeFi integrators and applications to drive utility to liquid staking tokens facilitated on the platform.

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Educational Content and DevRel To Boost Web3 Accessibility

We recognize some Ankr solutions may require additional explanations and tutorials so that they are easily digestible and accessible to more users. Ankr is working to produce innovative content via an educational platform that will consist of resources such as documents, tutorials, articles, videos, infographics, and more — all to be launched in multiple phases.

We will introduce the community to Ankr's Web3 products, educate them about the importance of decentralized infrastructure, build awareness of liquid staking features, and provide general insight into development and earning strategies in crypto. We believe an Ankr education platform will help transform our UX, build trust among users, and grow the size of the Ankr community.

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Market Analysis

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What Will Happen in the Coming Years?

We fully anticipate that the continued growth of Web3 and metaverse adoption will bring to market a wide range of connectivity types, devices, and technologies that will offer more functionality and interoperability than the closed-loop systems and sandboxes that typify the status quo of the current tech stack. With the proliferation of DeFi services, it has become clear that winners of the new internet will emerge from the subset of developers and projects who design and build with a deep understanding of the value of composable infrastructure building blocks.

As more bridges are built between blockchains, they will also emerge between the offline and digital worlds. Those connections will spawn new products and experiences augmenting the metaverse, IoT, and AI, which will create new use cases for crypto assets, blockchain systems, and so on. And as the barriers to the global adoption of decentralized blockchain systems recede, so too will the perceived limits on the growth potential of Web3 technologies.

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Competitive Landscape

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What sets Ankr apart?

Ankr's service model stands in contrast to centralized node infrastructure providers. Centralized infrastructure providers offer gated services and Web2 business models that go against the principles of decentralization at the heart of Web3. That said, any project that's in the business of increasing node infrastructure to support the growth of Web3 is, in some sense, striving toward a common goal alongside Ankr. The way we go about facilitating the growth of Web3, however, is what sets Ankr apart.

As a decentralized node infrastructure provider that sources nodes from all kinds of independent node operators, Ankr's success is in part derived from the proliferation of nodes of all kinds. As such, Ankr isn't in direct competition with other node infrastructure providers. Rather, Ankr Network is a force that takes existing node infrastructure and makes it more resilient, secure, and decentralized.

For example, if a DeFi project exclusively uses Alchemy for its node infrastructure, the project's infrastructure can be made more robust by leveraging Ankr Network's decentralized node infrastructure in conjunction with its existing nodes for added redundancy, intelligent load balancing, and security in the event of outages with a centralized provider.

Pocket Network (POKT) is another project (and Ankr ecosystem partner) that's building decentralized node infrastructure for Web3. And, once again, their success is not mutually exclusive with Ankr's. The more decentralized node infrastructure is available to the Web3 industry, the better. That said, Ankr has solidified itself as the world's fastest-growing decentralized infrastructure provider by request volume, supported ecosystems, and rate of growth.

Our performance as a provider is directly responsible for our rapid growth. Ankr has built out precise performance benchmark analytics to track how our RPCs and infrastructure stack up to our competitors, and we consistently work to provide constant improvements to every facet of our service that affects developers:

- Reliability
- Low latency
- Affordability
- Global distribution
- Decentralization

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Team

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A globally distributed team pushing innovation worldwide.

Ankr contributors and ecosystem partners are uniquely equipped to handle the problems that Web3 developers face, armed with years of experience building, scaling, and managing cryptocurrency and Web3 infrastructure companies. We are a team of engineers and creatives with a vast combined experience spanning cloud computing, finance, and blockchain, with a history at the world's leading companies and organizations like AWS, Microsoft, Goldman Sachs, Google, Yandex, Oracle, Ethereum, BitGo, and more.



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Conclusion

As interest in Web3 continues to grow, so does the need for the crucial node infrastructure and development tools required to facilitate blockchain development. The positioning of Ankr Network as a core layer of blockchain infrastructure drives more demand for the additional services provided by Ankr contributors and ecosystem partners, which will subsidize the growth and development of Ankr's decentralized node network. And as the same centralized forces that came to dominate Web2 are attempting to capture the key access points for developing and maintaining Web3 applications, it's never been more important to use and support decentralized blockchain infrastructure. In this regard, Ankr is leading the charge and fighting to ensure Web3 developers have the opportunity to use and support censorship-resistant, decentralized, trustless and autonomous infrastructure.

The latest version of Ankr Network brilliantly aligns the incentives of node providers, developers, and stakers — creating a circular economy around the creation and use of decentralized node infrastructure. The ANKR token is crucial in this economy and for voting rights in the Ankr DAO. In other words, Ankr is giving individuals the power and ability to own the infrastructure of Web3 — and to keep it decentralized.

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Ankr - Decentralized services powering the Web3 (r)evolution

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